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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/402,796 12/22/99 DUPUIS

C 05725.0481

HM12/1101  
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EXAMINER

WELLS, L

ART UNIT

PAPER NUMBER

1619

DATE MAILED:

11/01/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

09/402,796

Applicant(s)

DUPUIS, CHRISTINE

Examiner

Lauren Q Wells

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12/22/99 20) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

Claims 16-37 have been presented for examination and will be reviewed on their merits. The preliminary amendment, filed December 12, 1999, wherein the title was amended, and claims 1-15 were cancelled, and claims 16-37 were added, was entered prior to this examination on the merits.

#### *Specification*

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

#### *Claim Rejections - 35 USC § 102*

Claims 16-37 have been presented for examination and will be reviewed on their merit.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 16, 17, 18, 19, 21, 22, 23, 25, 26, 27, 28, 29, 35, 37 rejected under 35 U.S.C. 102(e) as being anticipated by Dupuis et al (6,080,392); USPTO-892 dated 10/26/00.

These claims appear to be directed towards a cosmetic composition comprising a nonionic amphiphilic associative polyurethane and an anionic polymer comprising at least one fatty-chain monomer unit. The claims also appear to be directed toward a process for treating the hair, and a process for thickening a cosmetic composition and a

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leave-in hair care gel or styling gel. Certain dependent claims are directed to "R" groups of the nonionic amphiphilic polyurethane, to specific anionic polymers, to specific fatty-chain monomer units, percent weights and ratios of the nonionic amphiphilic polyurethane and the anionic polymer.

Dupuis et al. teach (Col. 1, lines 60-63) a cosmetic composition comprising, in a cosmetically acceptable aqueous medium, at least one associative polyurethane and at least one anionic polymer. Dupuis et al. teach (Col. 2, lines 29-32) teach associative polyurethanes as polymers containing at least one hydrophilic sequence, at least one hydrophobic sequence and at least one urethane group. Dupuis et al. teach (Col. 2, lines 33-39) the hydrophilic sequence as a polyoxyalkylenated sequence, in particular a polyoxyethylenated sequence. Dupuis et al. teach the hydrophobic sequence as a fatty chain preferably comprising 8 to 30 carbon atoms and at least two hydrophobic sequences in the associative hydrophobic sequence. Dupuis et al. teach (Col. 4, lines 58-64; Col. 5, lines 1-3) formula (I), where  $R_1$  and  $R_2$  may be identical or different and are  $C_8$ - $C_{18}$  hydrocarbon radicals, where  $R_3$  is a  $C_7$ - $C_{36}$  hydrocarbon radical, where "a" is 90 to 600, and where "b" is 1-4. Additionally, Dupuis et al. teach (Col. 5, lines 13-15) anionic polymers generally used as polymers containing groups derived from carboxylic, sulphonic, or phosphoric acid. Additionally, Dupuis et al. teach (Col. 5, lines 37-39) preferred anionic polymers containing carboxylic groups as homo- or copolymers of acrylic or methacrylic acid with a monoethylenic monomer such as ethylene, styrene, vinyl esters or acrylic or methacrylic acid esters, optionally grafted onto a polyalkylene glycol. Additionally, Dupuis et al. teach (Col. 5, lines 65-67) that these copolymers can

be made of the copolymers of acrylic acid and C<sub>1</sub>-C<sub>4</sub> alkyl methacrylate and the terpolymers of vinylpyrrolidone, acrylic acid, and methacrylate of C<sub>1</sub>-C<sub>20</sub> alkyl, such as ®Acrylidone LM. Additionally, Dupuis et al. teach (Col. 6, line 4) preferred anionic polymers containing carboxylic groups of crotonic acid, such as those containing in their chain vinyl acetate or propionate units and allylic and optionally other monomers such as methallylic esters, vinyl ether or vinyl ester of a linear or branched saturated carboxylic acid containing a long hydrocarbon chain, specifically ®National Starch. Additionally, Dupuis et al. teach (Col. 6, line 20) preferred anionic polymers containing carboxylic groups of polymers derived from maleic, fumaric, or itaconic acid. Additionally, Dupuis et al. teach (Col. 6, lines 29-35) preferred anionic polymers as polymers of maleic and itaconic anhydride and of an allylic or methallylic ester optionally containing an acrylamide or methacrylamide group, an  $\alpha$ -olefin, acrylic or methacrylic esters, acrylic or methacrylic acid or vinylpyrrolidone in their chain. Additionally, Dupuis et al. teach (Col. 6, lines 40-42) anionic polymers comprising sulphonic groups such as vinylsulphonic or styrenesulphonic acid. Additionally, Dupuis et al. teach (Col. 7, lines 34-37) associative polyurethane as present in proportions ranging from 0.01% to 5%, preferably from 0.05% to 3% by weight. Additionally, Dupuis et al. teach (Col. 7, lines 38-42) anionic polymers as present in proportions ranging from 0.1% to 20%, preferably from 0.5% to 8% by weight. Additionally, Dupuis et al. teach (Col. 7, lines 43-47) a mixture of water and a cosmetically acceptable solvent such as glycol ethers as a cosmetically acceptable medium. Additionally Dupuis et al. teach (Col. 7, lines 64-67) gums as a further ingredient of the composition. Gums and glycol ethers are modified

soluble starches. Furthermore, Dupuis et al. teach (Col. 8, lines 24-29) a process for the cosmetic treatment of keratin substances, such as the hair, characterized in that it comprises applying a cosmetic composition to the keratin substance and then in optionally rinsing with water, or in optionally leaving the cosmetic composition to stand on the keratin substances for a certain period of time. Furthermore, Dupuis et al. teach (Col. 8, lines 37-29) the cosmetic composition as a leave-in composition. Therefore, those claims drawn to cosmetic compositions containing at least one nonionic amphiphilic polyurethane and at least one anionic polymer comprising at least one fatty chain monomer unit are anticipated as is the process for treating hair and a leave-in hair care gel or styling gel.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20, 24, 30-34, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dupuis et al. in view of Cauwet et al. (5,478,562) and Prencipe et al. (5,385,729), in further view of Carey; USPTO-892 dated 10/26/00.

These claims appear to be directed towards a cosmetic composition comprising a nonionic amphiphilic associative polyurethane and an anionic polymer comprising at least one fatty-chain monomer unit. The claims also appear to be directed toward a process for treating the hair, and a process for thickening a cosmetic composition and a

leave-in hair care gel or styling gel. Certain dependent claims are directed to "R" groups of the nonionic amphiphilic polyurethane, to specific anionic polymers, to specific fatty-chain monomer units, percent weights and ratios of the nonionic amphiphilic polyurethane and the anionic polymer.

Dupuis et al. teach (Col. 1, lines 60-63) a cosmetic composition comprising, in a cosmetically acceptable aqueous medium, at least one associative polyurethane and at least one anionic polymer, at least one of the two polymers being a polymer with foaming power. Dupuis et al. teach (Col. 2, lines 29-32) teach associative polyurethanes as polymers containing at least one hydrophilic sequence, at least one hydrophobic sequence and at least one urethane group. Dupuis et al. teach (Col. 2, lines 33-39) the hydrophilic sequence as a polyoxyalkylenated, in particular a polyoxyethylenated sequence; the hydrophobic sequence as a fatty chain preferably comprising 8 to 30 carbon atoms and at least two hydrophobic sequences in the associative hydrophobic sequence. Dupuis et al. teach (Col. 4, lines 58-64; Col. 5, lines 1-3) formula (I), where  $R_1$  and  $R_2$  may be identical or different and are  $C_8-C_{18}$  hydrocarbon radicals, where  $R_3$  is a  $C_7-C_{36}$  hydrocarbon radical, where "a" is 90 to 600, and where "b" is 1-4. Dupuis et al. teach (Col. 5, lines 13-15) anionic polymers generally used as polymers containing groups derived from carboxylic, sulphonic, or phosphoric acid. Dupuis et al. teach (Col. 5, lines 37-39) preferred anionic polymers containing carboxylic groups of acrylic or methacrylic acid with a monoethylenic monomer such as vinyl esters, or acrylic, or methacrylic acid esters optionally grafted onto a polyalkylene glycol. Additionally, Dupuis et al. teach (Col. 5, lines 65-67) that these copolymers can be made of the copolymers of acrylic acid

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and C<sub>1</sub>-C<sub>4</sub> alkyl methacrylate and the terpolymers of vinylpyrrolidone, acrylic acid, and methacrylate of C<sub>1</sub>-C<sub>20</sub> alkyl, such as ®Acrylidone LM. Dupuis et al. teach (Col. 6, line 4) preferred anionic polymers containing carboxylic groups of crotonic acid, such as those containing in their chain vinyl acetate or propionate units and allylic or methallylic esters, vinyl ether or vinyl ester of a linear or branched saturated carboxylic acid containing a long hydrocarbon chain, specifically ®National Starch. Dupuis et al. teach (Col. 6, line 20) preferred anionic polymers containing carboxylic groups of maleic, fumaric, or itaconic acid optionally containing an acrylamide or methacrylamide group, an olefin, acrylic or methacrylic esters, acrylic or methacrylic acid or vinylpyrrolidone in their chain. Dupuis et al. teach (Col. 6, lines 40-42) polymers comprising sulphonic groups as polymers containing vinylsulphonic or styrenesulphonic units. Dupuis et al. teach (Col. 7, lines 34-37) associative polyurethane as present in proportions ranging from 0.01% to 5%, preferably from 0.05% to 3% by weight. Dupuis et al. teach (Col. 7, lines 38-42) anionic polymers as present in proportions ranging from 0.1% to 20%, preferably from 0.5% to 8% by weight. Dupuis et al. teach (Col. 7, lines 43-47) a mixture of water and a cosmetically acceptable solvent such as glycol ethers as a cosmetically acceptable medium. Furthermore, Dupuis et al. teach (Col. 7, lines 64-67) gums as a further ingredient of the composition. Gums and glycol ethers are modified soluble starches. Dupuis et al. teach (Col. 8, lines 24-29) a process for the cosmetic treatment of keratin substances, such as the hair, characterized in that it comprises applying a cosmetic composition to the keratin substance and then in optionally rinsing with water, optionally after having left the cosmetic composition to stand on the keratin



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substances for a certain period. Furthermore, Dupuis et al. teach (Col. 8, lines 37-29) the cosmetic composition as a leave-in composition.

Prencipe et al. teach a personal care composition in the form of a hair or skin treating gel containing a synthetic linearly viscoelastic cross-linked polymeric thickening agent. Prencipe et al. teach (Col. 5, lines 64-68 and Col. 6, lines 1 and 17) a preferred embodiment of the cross-linked polymer in which the polymer contains repeating units of one or more phosphoric acid groups bonded to one or more carbon atoms in the polymer chains. Prencipe et al. teach examples of such phosphoric acid units as vinyl phosphoric acid and styrene phosphoric acid.

Cauwet et al. teach a cosmetic composition for hair and skin washing containing at least one surface-active agent of the alkyl polyglycoside and/or polyglycerolated type and at least one polyetherurethane. Cauwet et al. teach (Col. 1, lines 17-18) that polyetherurethanes are known thickeners for compositions containing surface-active agents.

While Dupuis et al. do not teach all of the claim designated weight percentages or ratios of the nonionic amphiphilic polyurethane to anionic polymer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the weight ratios because it is within the skill of the artisan to substitute various ratios to produce the most stable composition such that the hair product does not liquefy rapidly or disappear rapidly, thus allowing the composition to redistribute on the hair and/or allow it to penetrate into the hair and scalp as taught by Dupuis et al.

While Dupuis et al. do not teach specific phosphoric acids, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted vinyl phosphonic acid or styrene phosphonic acid as taught by Prencipe et al. for the phosphonic acids taught by Dupuis et al. because Prencipe et al. teach that phosphonic polymers are needed for cross-links with polymeric thickening agents so that the cosmetic composition has excellent stability against phase separation, viscosity changes in storage, and an excellent texture. While Dupuis et al. do not teach specific ratios of nonionic amphiphilic polyurethane to anionic polymer as a process for thickening a cosmetic composition it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the ratios of nonionic to anionic polymers to thicken the composition because Cauwet et al. teach the importance of producing compositions in the form of liquids, gels, emulsions, lotions, dispersions, or aerosol foams that are thickened. It would have been obvious to one of ordinary skill in the art that a wide variety of alkyl groups, such as octadecyl and methyl, could have been obtained by condensation reactions, such as polycondensation of hexamethylene diisocyanate and polyethylene glycol, because Carey teaches that condensation reactions are inherently known to give a product accompanied by the expulsion of a stable molecule when two molecules are combined.

In addition, while Dupuis et al. do not teach polycondensation, administrative notice is taken that it is obvious in the art use polycondensation octadecyl group and methyl group by polycondensation of hexamethylene diisocyanate and polyethylene glycol because of the expectation of producing a water-dispersible polyurethane prepolymer that can react with other monomers as taught by Goos et al. While Dupuis et al. do not teach specific phosphoric acids, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted vinyl phosphonic acid or styrene phosphonic acid as taught by Prencipe et al. for the phosphonic acids taught by Dupuis et al. because Prencipe et al. teach that phosphonic polymers are needed for cross-links with polymeric thickening agents so that the cosmetic composition has excellent stability against phase separation, viscosity changes in storage, and an excellent texture. While Dupuis et al. do not teach specific ratios of nonionic amphiphilic polyurethane to anionic polymer as a process for thickening a cosmetic composition it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the ratios of nonionic to anionic polymers to thicken the composition because Cauwet et al. teach the importance of producing compositions in the form of liquids, gels, emulsions, lotions, dispersions, or aerosol foams that are thickened. It would have been obvious to one of ordinary skill in the art that a wide variety of alkyl groups, such as octadecyl and methyl, could have been obtained by condensation reactions, such as polycondensation of hexamethylene diisocyanate and polyethylene glycol, because Carey teaches that condensation reactions are inherently known to give a product accompanied by the expulsion of a stable molecule when two molecules are combined.

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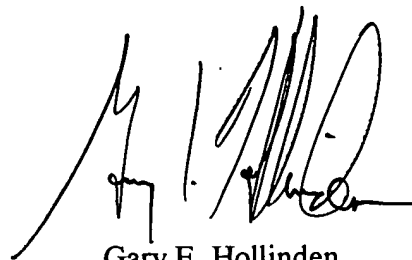
The claimed subject matter fails to patentably distinguish over the state of the art as represented by the cited references. Therefore, the claims are properly rejected under 35 U.S.C. § 103.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Q Wells whose telephone number is (703) 305-1878. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary E Hollinden can be reached on (703) 308-4521. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and (703) 308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1234.

A handwritten signature in black ink, appearing to read 'G. E. Hollinden', with a stylized flourish at the end.

Gary E. Hollinden  
Primary Examiner  
Art Unit 1619

lqw  
October 26, 2000